

HOYA NEW



Picture of the flowers and foliage author unknown labeled IML469 = IML270.

Oh There it is !

A pdf publication devoted to the Genus

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Editor: Dale Kloppenburg

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When a species is collected from the wild, I feel it is wise to identify it, propagate it and name it. In this way it will eventually get it into commercial channels, be distributed to all those interested in this genus and thus be preserved. If in the future the species is lost through natural causes or forest destruction it will still be here on earth in your collection.

The following new species are presented in PDF format with ISSN number. Check posting on my website “<http://.hoyardk.wix.com/Kloppenburger>” under publications.

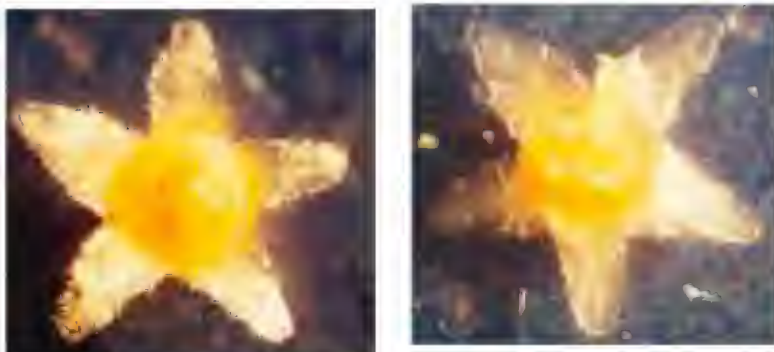
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Hoya malata Kloppenburg 2019

Hoya malata Kloppenburg sp nova, holotypus 10447 HAW hic designatus. This new species was collected by Dr. Art Whistler at Malata, Samoa 31 May 1997 in the mountain forest on top of Malata at 350 m. elevation. Dr. Whistler describes it as: Leaves narrowly elliptic-lanceolate attenuate, apex sharply acute base narrowly rounded obtuse, (beautiful sheet) irregular triplinerved very finely netted anastomosing nerves, 1 pair of basal and 1 offset pair above this ca. 0.8 cm up; 8.7 - 9 cm long widest near the base 2-2.3 cm, thin textured. Petioles long, narrow 1.1 - 1.2 cm long, probably grooved above, glabrous, green did not find a basal gland. Internodes glabrous, mostly 12 cm long 0.2 cm in diameter, light green colored, nodes slightly enlarged. Peduncle long, terete, glabrous, fine, 6.7 cm long, less than 0.1 cm in diameter from node. Pedicels (first bloom) long terete, glabrous, filiform 3 cm long. Corolla cut 1/2 way, campanulate, large, glabrous outside; inside glabrous except with short pubescent margins. Corona narrowly ovate, outer apex narrowly rounded do not reach the corolla sinuses, dorsal concave with a rounded keel all the way; inner apex reach the center.

This type sheet is labeled Hoya vitiensis Turrill, 1915. It is not this species as the leavers base is not broadly obtuse nearly cordate and the nervation is different, also the sepals are not nearly triangular with dense ciliate edges among other differences. I felt it might be *H. chlorantha* Rechinger 1908 but it also differs from this sp in too many ways.

My photomicrographs and data from a flower of Herbarium sheet 10477:



Outside view left and inside view right of the calyx enlarged about 8x. Sepals are ciliate otherwise glabrous Apex - base 0.20 cm Apex - center 0.25 cm Widest 0.15 cm Ovaries are glabrous, domed 0.15 cm wide at the base.



Corolla outside at the center enlarged about 8x. Surface is finely granulose and glabrous, ovaries and calyx still attached here.



Corolla: outside at the apex. eared (conduplicate at the sinuses).

Sinus - sinus	0.66 cm
Sinus - center	0.50 cm
Sinus - apex	0.80 cm
Apex - center	1.12 cm
Widest	0.75 cm

Flower flattened is 2.24 cm in diameter.



Corona: top view enlarged about 8x. Inner lobes raised outer lobes tapered to a narrowly rounded end. Dorsal concave with a medium rounded ridge.

Apex - apex	0.40 cm
Apex - center	0.45 cm
Widest	0.15 cm
Anther wing - aw.	0.20 cm
Aw. - center	0.15 cm
Retinaculum - ret.	0.11 cm



Coronal scale side view enlarged about 16x. Scale relatively short and thick Anther wings deeply scythe shaped. Inner lobe raised but not exceeding the anther.



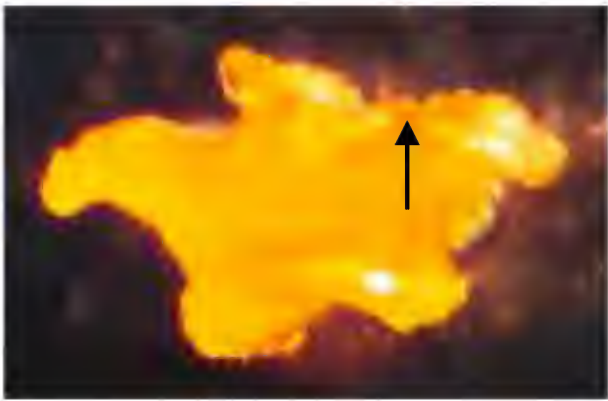
Inside view of the flower at the corolla lobe and sinus enlarged about 8x. The coronal lobe does not reach the corolla sins. Corolla inside is pubescent on the margins diminishing to puberulous inwardly. Outer coronal lobe tapers on the sides to a point note the umbo centrally on the dorsal surface.



Corolla outside at the center enlarged about 8x. Collar not much thickened Surface granulose and glabrous.



Stylar pentagonal crown enlarged about 32x, a top view The 5 corners project and turn down, in between the edges are cupped. Center is raised a little and domed. Whole surface is glabrous.



Same structure as above viewed from the side again enlarged about 32x. The stylar crown is composed of the fused styles which form a column around the ovaries at the corners (5) the anthers (not shown here) are attached an above them would be the coronal scales. On the center above the retinaculum is secreted and below it the stigmatic surface indicated by an arrow.



Pollinarium enlarged a little less then 165x. It is difficult here to get the exact measurements of the structure as indicated below.

Pollinia

length	0.67 mm
widest	0.23 mm

Retinaculum

length	0.17 mm
shoulders	0.20 mm
waist	0.08 mm
hip	0.12 mm

Translator

length	0.14 mm
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Caudicle bulb

diam.	0.06 mm
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Note the differences in the retinaculum structure all due to focus and focal depth. Here again as with many Samoan species the shoulders curve backwards.



Another pollinarium enlarged more nearly 165x. All the pollinia in this flower had germinated and two had pollen tubes intertwined. See the mass of tubes at the lower right which lead to another pollinarium.

Description of the herbarium sheet above 10477: by Dr. Whistler.

Hoya vitiensis Turrill, 31 May 1997 Uoplu, Samoa. Vine with milky sap and greenish flowers, uncommon in the mountain forest on top of Malata at 350 m. elevation, just to the west of Uafato. Salix like leaves, 1 stem 5 pairs of leaves 1 peduncle with 4 flowers and 8 peduncles. Envelope with 3 flowers. Leaves narrowly elliptic-lanceolate attenuate, apex sharply acute base narrowly rounded obtuse, (beautiful sheet) irregular triplinerved very finely netted anastomosing nerves, 1 pair of basal and 1 offset pair above this ca. 0.8 cm up; 8.7 - 9 cm long widest near the base 2- 2.3 cm, thin textured. Petioles long, narrow 1.1 - 1.2 cm long, probably grooved above, glabrous, green did not find a basal gland. Internodes glabrous, mostly 12 cm long 0.2 cm in diameter, light green colored, nodes slightly enlarged. Peduncle long, terete, glabrous, fine, 6.7 cm long, less than 0.1

cm in diameter from node. Pedicels (first bloom) long terete, glabrous, filiform 3 cm long. Corolla cut 1/2 way, campanulate, large, glabrous outside; inside glabrous except with short pubescent margins. Corona narrowly ovate, outer apex narrowly rounded do not reach the corolla sinuses, dorsal concave with a rounded keel all the way; inner apex reach the center.

A reduced copy of the type sheet 10477 (BISH)



Hoya vitiensis subsp. parksii Kloppenburg 2019

Hoya vitiensis subsp. parksii Kloppenburg subsp. nova Holotypus 20723 (UC). This new subspecies was collected by H. E. Parks at Piti Leveu, Fiji. It differs from the species in a number of ways. The pedicels here are 3.3 cm long and have a few scattered hair cells vs. 3.8 cm long; the sepals are similar but smaller 0.10 cm x 0.11 cm vs. 0.175 x 0.15 cm here the corolla inside is velvety pubescent vs. altogether pustulate, Here the lobes are 0.62 cm long vs. 0.5 cm long. Here the coronal lobes are 0.35 cm long and 0.20 cm wide vs. 0.40 cm long x 0.275 cm wide: the pollinia here is 0.68 mm long vs. 0.10 mm long.

See details below.



Pedicel, calyx and ovaries side view enlarged about 8x.

Pedicel: 3.3 cm long, terete, a very few scattered hairs. 0.05 cm in diameter.

Ovaries: 0.15 cm tall. Columnar nipple ended.

Calyx: sepals outside glabrous, ciliate, inside glabrous shiny. 0.10 cm long, 0.11 cm widest, overlap about $\frac{1}{4}$. 2 ligules at each sinus.



Corolla outside view enlarged about 8x. Pedicel curved. Calyx small, sepals do not come near the corolla sinuses. Corolla outside granulose, inside velvety pubescent, papillose.



Corolla: inside view enlarged about 8x. Inside velvety pustulate, lobes broad. Coronal inner lobe does not reach the corolla sinus.

Sinus – sinus	0.70 cm
Sinus – apex	0.62 cm
Apex – center	1.00 cm
Widest	0.74 cm



Bottom view of the corona enlarged about 8x. The bottom is channeled well in toward the raised column. Column 0.08 cm tall and thickened. Inner lobe is spatulate, Outer lobe tapering rounded.



Side view of a **corona** scale enlarged about 8x. Inner lobe raised and spatulate dorsal curved downward to the outer apex. Anther wing deeply scythe shaped. Anther rises above inner lobe.

Apex – apex	0.35 cm
Apex – center	0.45 cm
scale depth	0.20 cm



Pollinarium enlarged about 83x. The retinaculum head is to the bottom left.

Retinaculum

length	0.27 mm
shoulders	0.16 mm
waist	0.09 mm
hips	0.16 mm
extensions	nil.

Translator

length	0.01 mm
depth	0.03 mm ca.



Pollinium enlarged about 83x. Top and base rounded, (obtuse).

Pollinia

length	0.68 mm
widest	0.27 mm

Hoya gutierrezii Kloppenburg 2019

Hoya gutierrezii Kloppenburg sp. nova, holotypus 117633 (PNH) hic designatus. Collected by Gutierrez et al. at Mt. Sohoton, Bassey, Samar, M-A 1970. 125° 12' E. 11° 27' N. Diptocarp forest, vine Flower violet, leaf tinged violet. There is no other Philippine hoya with a pollinarium with these measurements. See the detailed measurements and the type sheet copy below.

Stems: flexible reddish in color, nodes slight, internodes rooting, rigid. glabrous

Blade: 4-9 cm. x 1.5-2.5 cm, elliptic-lanceolate, base cuneate, apex acute, glabrous, enervis, margins undulant, a tinge of violet, probably very thick and fleshy.

Petiole: 0.8-1.0 cm x 0.1-0.15 cm glabrous, most likely not channeled above.

Peduncle: 8.5 x 0.1 cm glabrous thin strict.

Rachis: finely bracteate.

Pedicel: 1.5 – 2 cm, 0.02 cm. in diameter, glabrous, yellowish very long, very fine.



Top view of a calyx enlarged about 8x. sepals 0.18 cm x 0.10 cm. outside puberulous-punctate, very slight basal overlap, long and narrow apex obtuse, long dark ligules. Ovaries short domed shaped.



Flower enlarged about 8x. Sepals do not come near the corolla sinuses. Corolla outside glabrous.



Inside view of a flower enlarged about 8x. Corolla is pubescent, coronal lobes exceed the corolla sinuses.

Sinus – sinus	0.20 cm
Sinus – center	0.20 cm
Sinus – apex	0.40 cm
Apex – center	0.61 cm
Widest	0.39 cm

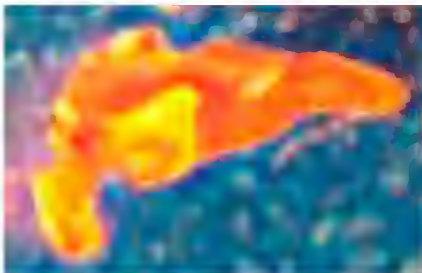


Bottom view of the corona enlarged about 8x. Lobes are channeled with a central column of 0.10 cm tall.



Top view of the coronal one lobe reflexed inward, enlarged as above. Dorsal concave with central keel the length of the scale, inner apex dentate outer acute.

Apex – apex	0.31 cm
Widest	0.12 cm
Ret. – ret	0.05 cm



Side view of a coronal lobe enlarged about 16x. Inner lobe short dentate, outer apex subacute Anther wings deeply scythe sapped.



A view of several pollinaria scale included is 1 mm. in total length. It appears the pollinium in different photos are different length and widths. I do not know the reason ?

Pollinium

length	0.35 mm
widest	0.18 mm

length	0.44 mm
widest	0.10 mm

Retinaculum

S type

length	0.17 mm
shoulder	0.15 mm
waist	0.06 mm
hip	0.08 mm
ext	0.03 mm

Translator

ls/o type

length	0.08 mm
depth	0.02 mm

Caudicle

C type

bulb diam.	0.05 mm
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Reduced copy of the Holotype sheet



Hoya gutierrezii subsp. concordae Kloppenburg 2019

Hoya gutierrezii subsp. concordae Kloppenburg sp. nova, holotypus 117016 (PNH) hic designatus. This plant was collected by ? et. al at Mt. Concord, Samar, May 1969. There is no other Philippine hoyo with a pollinarium with these measurements. Here the pollinia are longer than the species 0.48 mm x 0.19 mm vs. 0.35 mm x 0.18 mm. See the detailed measurements and the type sheet copy below.

Stems: flexible, nodes somewhat enlarged glabrous.

Leaf blade: 12 cm ca. 2 cm, glabrous, dried wrinkled, probably very thick and fleshy.

Petiole: 1-2 cm long groove on dorsal, prominent gland at leaf base.

Peduncle: 5.5 cm long ca. 0.15 cm glabrous.



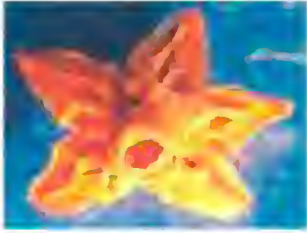
Pedicel and calyx enlarged about 8x. 2.5 cm long x 0.04 cm in diameter, finely puberulous, terete, 27 flowers + in this cluster.

Calyx: sepals 0.12 x 0.09, triangular finely pubescent outside, very little basal overlap, prominent ligules.

Ovaries: narrow columnar, glabrous 0.10 cm tall and base pair 0.07 cm wide.



Outside view of a flower enlarged about 8x. Corolla only partially here (has been eaten away by bupestids). Corolla looks to be pubescent on outside, flower pink.

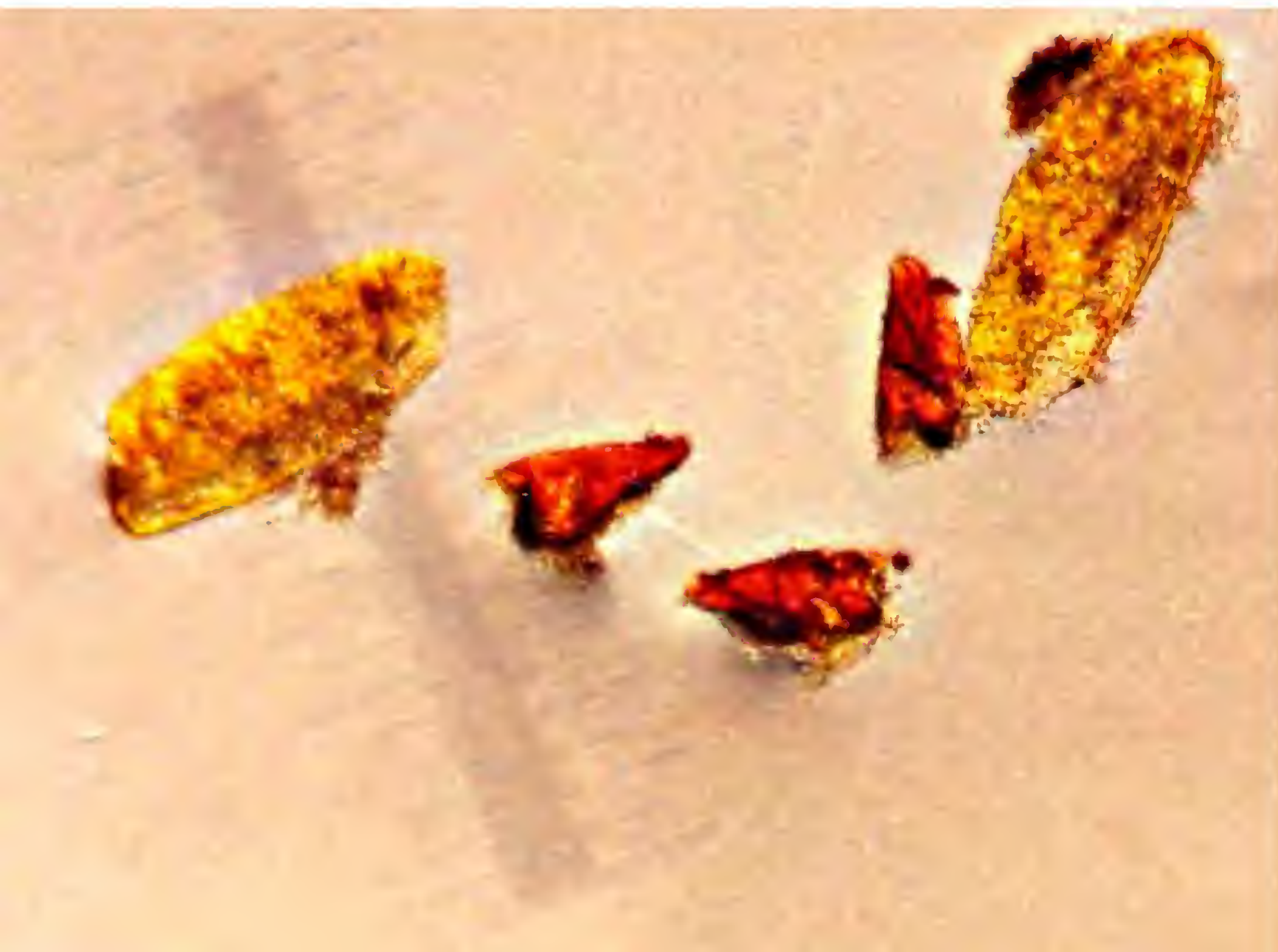


Bottom view of the corona enlarged about 8x, lobes are channeled to the central column that is oval shaped 0.09 x 0.06 cm and 0.02 cm tall.



Top view of the corona enlarged about 16x. Dorsal is concave with sharp outer edges and a central rounded keel. inner lobe is short dentate, scale sides cover the anther wings, outer lobe sub acute. Surfaces sulcate.

Apex – apex	0.30 cm
Widest	0.16 cm



Photos of pollinaria, scale length in background is 1 mm long.

Pollinium

length	0.48 mm
widest	0.19 mm

Retinaculum

length	0.21 overall including extensions.
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Reduced Type sheer of *Hoya gutierrezii* subsp. *concordae* # 117016 (PNH)



Hoya sagcalii Kloppenburg 2019

Hoya sagcalii Kloppenburg sp. nova, holotypus 10085 (PNH) hic designatus. The pollinarium is different than any present hoya that I have recorded, Similar to *Hoya merrillii* Schlechter in some respects such as the leaf nervation but otherwise differs in many structural parts and measurements. This species was collected by Galen and Sagcal at Tawi-Tawi. See detailed measurements of parts below.

Stems fine nodes enlarged internodes 7 cm long, glabrous, leaf blades 9 cm x 5 cm broad ovate rounded base and subcordate. both surfaces glabrous, apex acuminate, acute. tri-ple nerved edges a little undulant.

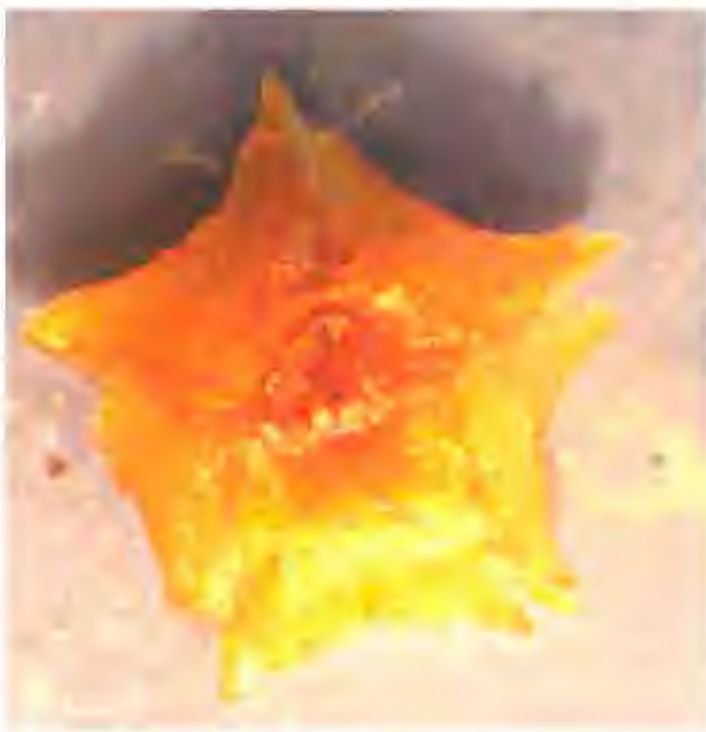
Petioles: brown 1.5 cm long channeled above.

Peduncle: 7 cm long, terete, filiform glabrous.

Rachis: here long finely bracteate circular.

Pedice: 1 – 1.5 cm long x 0.03 cm in diameter very fine, glabrous 10-15, flower yellow-orange, from Evergreen forest.

Calyx: 0.18 cm x 0.14 cm overlap $\frac{1}{2}$.



Outside surface of the corolla enlarged about 8x. Surface is glabrous and granulate.

Sinus – sinus	0.27 cm
Sinus – center	0.22 cm
Sinus – apex	0.30 cm
Apex – center	0.45 cm
Widest	0.26 cm



Inside view of the flower with corolla in place. Corolla is pubescent, coronal lobes acute at both ends and outer lobe exceeds the corolla sinuses. Inner lobes dentate and do not reach the center.

Apex – apex	0.29 cm
Apex – center	0.32 cm
Widest	0.12 cm
Ret- ret.	0.08 cm
Aw. – aw.	0.15 cm

Dorsal concave with central rounded keel with forward umbo, horizontal.



Bottom view of the corona enlarged about 16x. Lobes are channeled to even with the sinus thickened central column. Anther wings are a little thick and protrude slightly., outer coronal apex sharply acute.



Pollinarium enlarged about 165x.

Pollinium

length	0.45 mm
widest	0.15 mm

Retinaculum

length	0.18 mm
shoulder	0.16 mm
waist	0.06 mm
hip	0.11mm
ext.	0.06 mm

Translators

length	0.11 mm
widest	0.03 mm

Caudicle

bulb diam. ?

Bulb: granulate

Retinacula: S

Pollinia inner ends: T

Change of Genus

Clemensiella viracensis Kloppenburg, change in Genus from *Hoya*. (Holotype sheet PNH 5658) This was first published incorrectly as a *Hoya* in *Fraterna* 19(4): October-December issue 2006. The mistake in Genus was pointed out by Ulric Meve and I agree. It differs from *Hoya* in many ways, namely the pollinia do not have any translators (used to support the caudicle and here the caudicle is tubular in addition there is no pellucid edge to the pollinia, and the retinacula is simple lacking many structural features normally found in the Genus *Hoya*. In addition the flower structure is very different, namely the corona but also the corolla. The incorrect publication follows without the genus correction.

Hoya viracensis Kloppenburg & Siar
Determined to be *Clemensiella* by Ulric Meve

This species was collected by Barbon, Garcia & Alvarez for The Philippine Floral Project on 2 Dec. 1991, at Catanduanes, Virac Biranga, Kalatang. Seashore secondary forest, on caly loam soil, a climber with white sap. Flower is white. Foliage small, 2" long, ovate with long apiculate end; 3/4" wide in the center, perpendicular venation anastomosing. This species has a broad corolla with a small corona, a very small retinacula and large pollinia.

Hoya viracensis Kloppenburg & Siar, sp. nova., Typus PPI 005658 (PNH) Iso. CAHUP. BISH, etc.

The following are photomicrographs taken of flowers from the envelope an the herbarium sheet.



Calyx enlarged about 16x. Sepals are ovate, ciliate, overlap almost 3/4. 0.21 cm tall and 0.20 cm wide. Pedicel 0.21 cm long and 0.05 cm in diameter.



Outside view of part of the corolla. It is thick and leathery with even thicker edges. Outside glabrous but granulose and inside pubescent (possibly punctate-granulose).

Sinus to sinus	0.45 cm
Sinus to apex	0.52 cm
Sinus to center	0.47 cm

so corolla is cut more than half way.

Center to apex	0.80 cm
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so corolla flattened is 1.60 cm in diam.

Widest	0.45 cm
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Inside view of the corolla with Corona still attached enlarged about 16x. Corolla lobes are broad above the sinus with a acute apex, edges roll under a little. Corona is very compact and cupped with inner lobe slightly raised, spatulate and overlap at the center covering very short anthers. Outer lobes are raised and very blunt. Whole corona relatively small, outer lobes a long way from nearing the sinuses.

Corona sits on a short column 0.14 cm tall, ovaries are broad domed 0.09 cm tall and 0.07 cm at the base (pair). Styler crown capitate, ornate. Anther cases appear to be considerably below the inner coronal scale.



Side view of the coronal scale enlarged about 16x. Lobes sway backed, inner lobe spatulate, outer lobe well raised and obtuse. Possibly 0.25 cm. long and 0.15 cm. at the broadest. Anther wing to anther wing 0.15 cm. Retinaculum to retinaculum 0.08 cm.



Retinaculum enlarged about 165x. All pollinia had germinated and none attached to the caudicles.



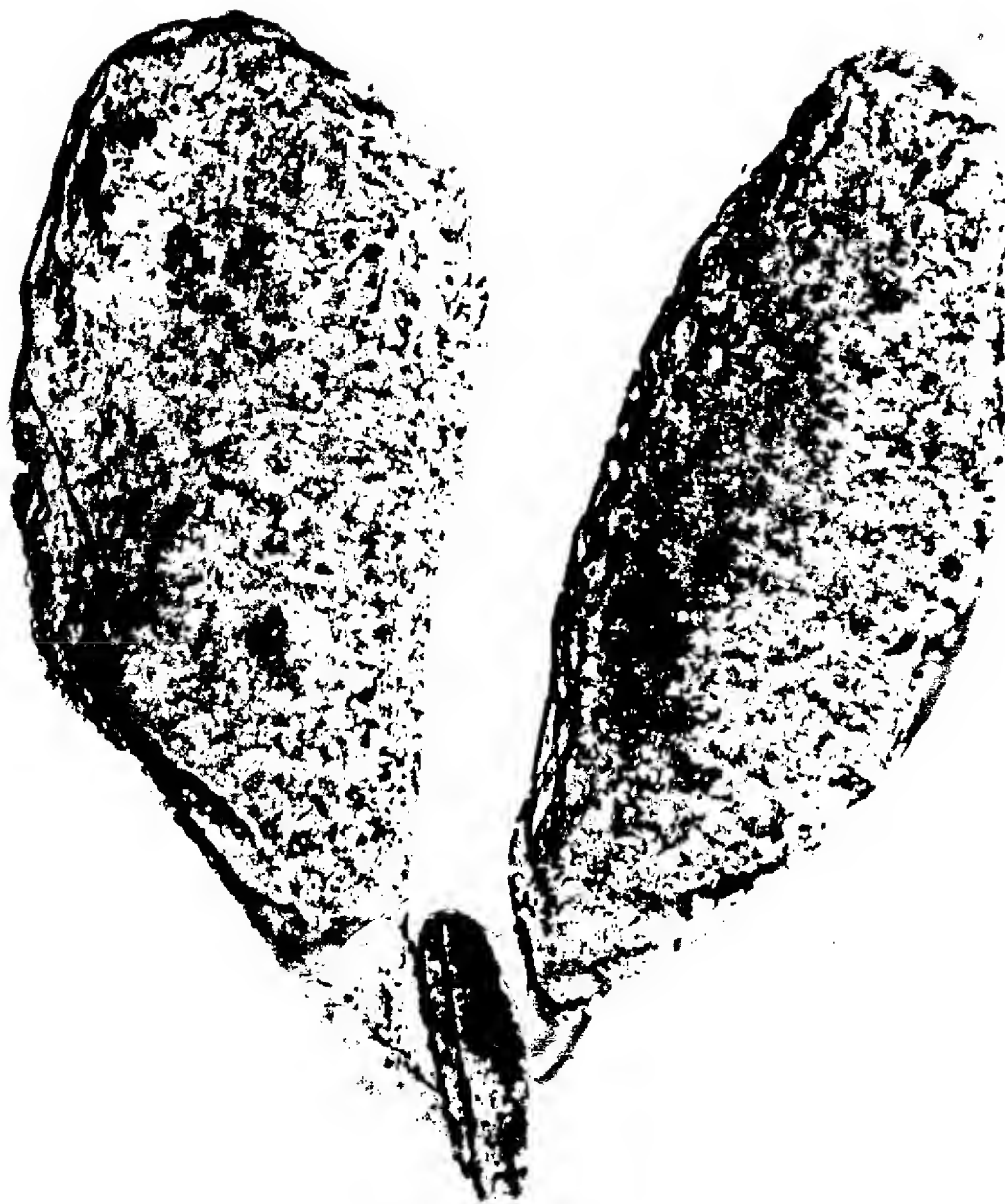
Another view of a retinaculum enlarged about 165x, showing there is a shoulder. It is difficult to determine which end should be up. This is a very small retinaculum. Overall lengths 0.14 cm. or 0.1 cm less extensions.

Two pollinia enlarged about 165x. Relatively these pollinia are very large when compared to the small retinaculum. Both have germinated with pollen tubes everywhere.



Length	0.53 mm
Width	0.23 mm

Outer apex appears to be rounded. and inner apex narrowing. Pellucid edge difficult to discern.

**Pollinium**

length: 0.58 mm
widest: 0.26 mm

Retinaculum

length: 0.16 mm
shoulder: none
waist: none
hip: none
ext.: 0.03 mm

Translators

length: 0.10 mm
depth: 0.20 mm

Caudicle

bulb. diam.:

Magnified
approximately 165x

HERB. OF THE PLANT. MUSEUM (P) PPI
 Part of the Philippine Plant Pressings of the Philippine
 National Museum, Manila and U. S. Botany Garden, Honolulu
 (Specimens for P. H. R. 1958)

101. *Philippine Plant Pressings* P. H. R. 1958
 102. *Philippine Plant Pressings* P. H. R. 1958
 103. *Philippine Plant Pressings* P. H. R. 1958
 104. *Philippine Plant Pressings* P. H. R. 1958
 105. *Philippine Plant Pressings* P. H. R. 1958
 106. *Philippine Plant Pressings* P. H. R. 1958
 107. *Philippine Plant Pressings* P. H. R. 1958
 108. *Philippine Plant Pressings* P. H. R. 1958
 109. *Philippine Plant Pressings* P. H. R. 1958
 110. *Philippine Plant Pressings* P. H. R. 1958

Clemensiella hernaезii Kloppenburg 2019

Clemensiella hernaезii Kloppenburg sp. nova, holotypus 5290 (CAHUP) hic designatus. This specimen was sent to me by Dr. Monina Siar 19. 2007. It was collected by B. F. Hernaez at UP Landgrant, Quezon, Philippines on March 17 along the river bank. This new species is unique namely for the length of the pollinia caudicle. The pollinia placement is also unique appearing not to be in anther pockets. See more details below.

Data and photos from material sent via Dr. Monina Siar, received 19 Feb. 2007



Calyx on outside of flower enlarged about 8x. Sepals are ovate 0.23 cm long and 0.20 cm at the widest, overlap nearly 4/5 edges ciliate, outer surface granulate.

Pedicel here very short 0.12 cm in diameter and at the calyx 0.27 cm wide. $\frac{1}{2}$ the length of *C. mariae* Schlechter.

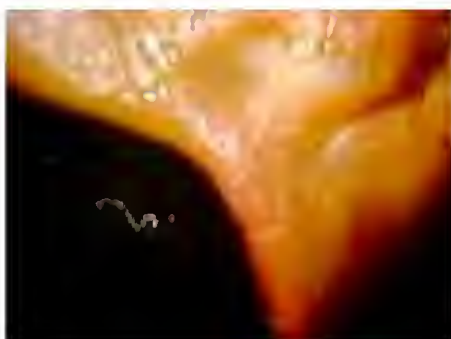


Inside view of the calyx enlarged about 8x. Inside surface slick, shiny glabrous. Small ligules are present at the sinuses.

Ovaries: short wide domed, glabrous with nipple like apices, 0.12 cm tall and 0.17 cm wide at pair base.



Outside center of corolla enlarged about 8x. Surface is glabrous, central opening 0.11 cm x 0.09 cm.



Outside corolla surface at the sinus enlarged about 8x, texture is thick and sinuses are shallow. Apex acute.



Inside apex of the corolla shiny glabrous, note edges thick 0.04 cm and slope outward, there is an occasional cilia near the apices. The flowers received were of two sizes.

Sinus – sinus	0.62cm	0.52 cm
Sinus – center	0.50 cm	0.50 cm
Sinus –apex	0.67 cm	0.50 cm
Apex – center	1.00 cm	0.80 cm
Widest	0.70 cm	0.53 cm



Corona top view enlarged about 16x, outer lobes are broadly rounded, glabrous tapering to an inner spatulate lobe that overtops the center in a vertical position (here flattened). Outer apex is 0.25 cm broad.

Apex – apex 0.32 cm



Central stylar crown enlarged about 32x. The pentagonal sides are narrow edged and the crown itself pale and mealy textured. Some pollinia are shown, they seem not to be in pockets of the anthers but lay exposed to a narrow thickened anther on the underside of the corona.



Inner thin spatulate lobe enlarged at least 32x. It is glabrous, thin almost translucent projecting centrally from the widened outer lobe.



The side view of an individual scale greatly magnified. below to the right is the narrow attached anther, inner lobe overtopping it and vertically spatulate. Scale is relatively thin.



A much enlarged view of the outer coronal lobe apical area, edges are rolled under and rounded, corolla inner surface below to the lower right.

Pollinarium enlarged about 165x., not like any Hoya or like Eriostemma .



The caudicles are clear rope-like and a pollinium with a rather rough surface texture. Much different than PNH species !



Retinaculum much enlarged. **Note** no hip, nor waist structure.

Pollinium

length	0.50 mm
widest	0.26 mm

Retinaculum

length	0.09 mm
widest	0.05 mm
ext.	0.05 mm

Caudicle

length	0.80 mm
diameter	0.06 mm



Magnified end of pollinium X400 with monocular scope, digital photo. It is not clear to me if the caudicle engulfs the end of the pollinium as it appears to or not. The translator appears to be tubular and has a little surface structure. Do not use the arrow for measurements



A pollinium enlarged about 165x and taken with an Olympus digital microscope. Note the surface is textured as opposed to most hoya pollinia. Looks like a moth cocoon. (No pellucid edge)

Pictures below by Monina Siar.



Note the corona not as with any Hoya species.



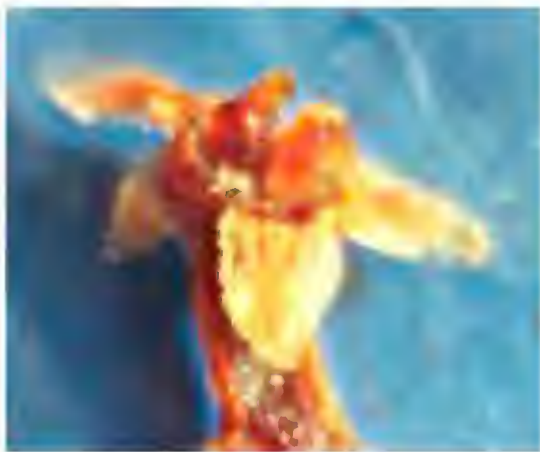
BRLOW IS A REDUCED COPY OF THE TYPE SHEET.



Hoya taylorii Kloppenburg 2019

Hoya taylorii Kloppenburg sp. nova Holotypus s. n. Taylor (UC) hic designatus. There are 2 sheets at UC by Taylor both s.n. (without numbers) and both are in the section Acanthostemma (Bl.) Kloppenburg, however they are different in many respects and collected at different locations and different dates, Type: s.n. Loher, collected in Rizal Province, Luzon, Philippine Islands, September 1909. UC was named *Hoya burtoniae* Kloppenburg. Thus new species was collected in 1923 at Catobato, Mindoro, Philippines. A Section Acanthostemma (Bl.) Kloppenburg species. Nearly all parts here are much smaller here than with *H. burtoniae*.

Leaf is small oval shaped with blunt apex, glabrous, 3 cm long and 1.2 cm at the widest.



Pedicel, calyx, and ovaries enlarged about 16x.

Pedicel is curved, terete, linearly lined, glabrous, pink, 4 cm long and 0.03 cm in diameter.

Sepals: are jagged edged with a slight overlap 0.07 cm long and 0.04 cm at the widest.

Ovaries: short, stubby, glabrous 0.05 cm tall and 0.04 wide at base pair.



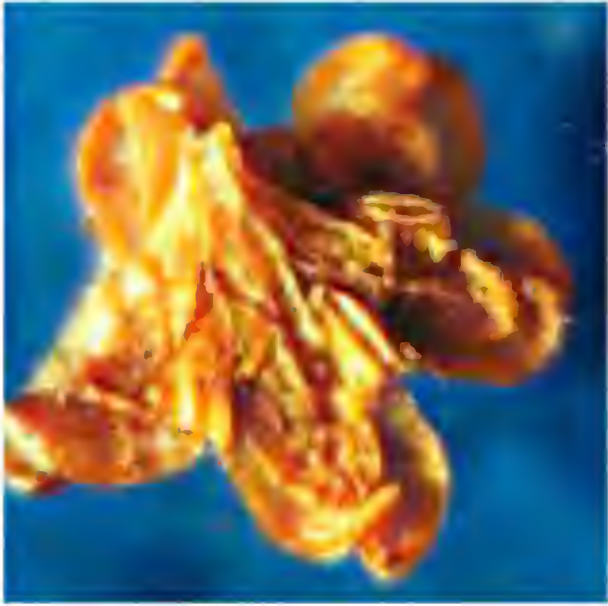
Side view of a flower enlarged about 8x.

Corolla is revolute or reflexed outside glabrous inside pubescent except for the apical area, coronal lobe apices are acute. Corona is upright and scales are bilobed.

Sinus – sinus	0.10 cm
Sinus – center	0.08 cm
Sinus – apex	0.19 cm
Apex – center	0.24 cm

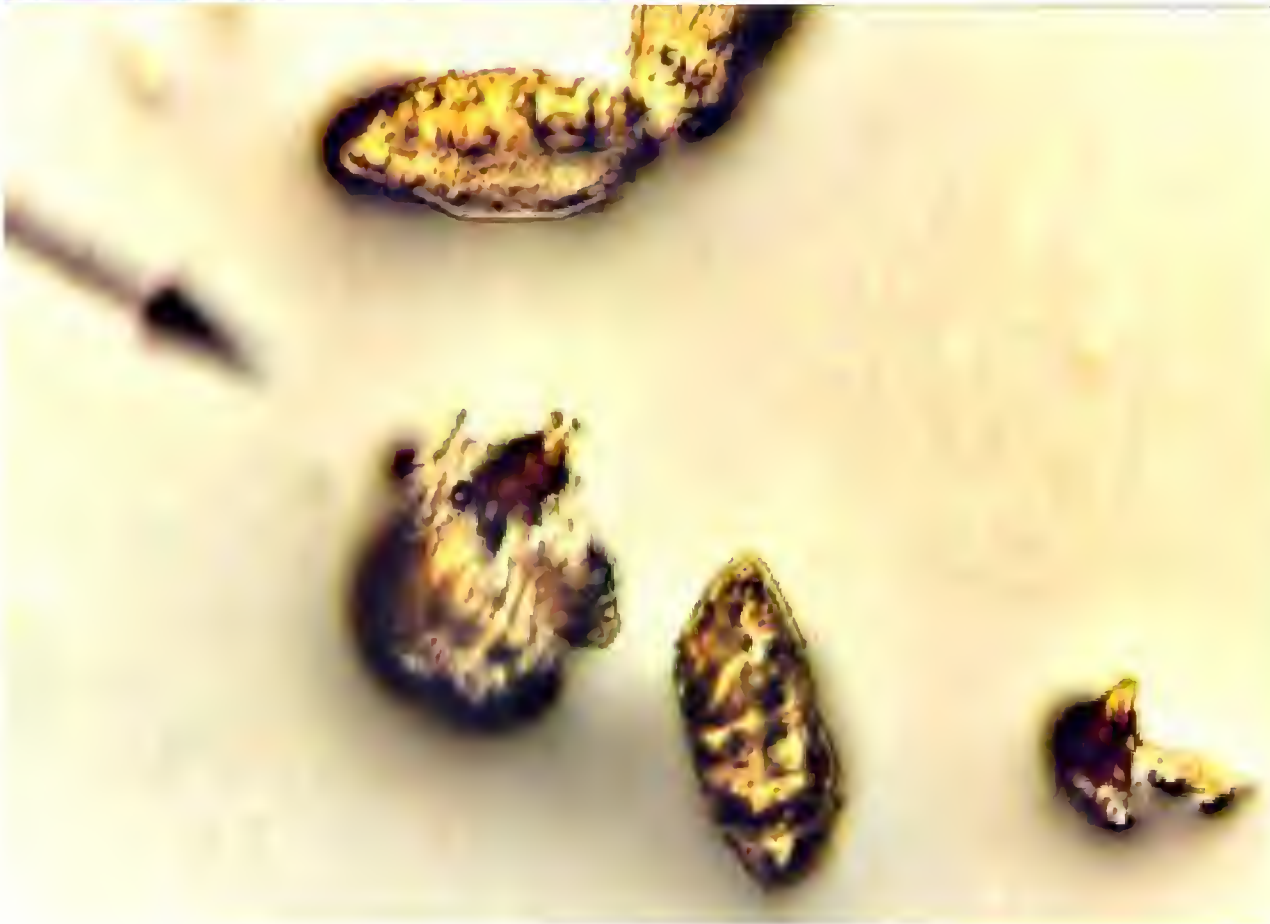


Bottom view of the corona enlarged about 16x. Bilobes form the lower channel to near the central enlarged column. Outer apex is obtuse.



Side view of the corona enlarged more than 16x. Inner lobes cover the center and are sharply spatulate, outer apex is obtuse, bilobed extensions are overlapped at the apex and turn up a little, ends are obtuse, surface is sulcate.

Apex – end	0.45 cm
Widest	0.12 cm



A group of pollinia and two pollinarium enlarged about 80x. Difficult to get any precise measurements: Note bulbous ends on the retinacula legs.

Pollinium

length ca.	0.24 mm
widest ca,	0.10 mm

Retinaculum

length ca.	0.08 mm
shoulder ca	0.05 mm
waist a little narrower	
hip as the shoulders.	
ex. ca.	0.02 mm with bulbous ends.

Translator/caudicle type: ?

Pollinia inner end type: RT